

WE CLAIM:

1. A tolerogenic dendritic cell comprising an oligodeoxyribonucleotide having one or more NF- $\kappa$ B binding sites.
2. The tolerogenic dendritic cell of claim 1 wherein the oligodeoxyribonucleotide sequence has two NF- $\kappa$ B binding sites.
3. The tolerogenic dendritic cell of claim 1 wherein the oligodeoxyribonucleotide has the sequence set forth by SEQ ID NO:1.
4. The tolerogenic dendritic cell of claim 1 further comprising a viral vector.
5. The tolerogenic dendritic cell of claim 4 wherein the viral vector is derived from a virus selected from the group consisting of adenovirus, adeno-associated virus, retrovirus and herpes virus.
6. The tolerogenic dendritic cell of claim 5 wherein the viral vector is derived from adenovirus.

7. A method of producing a tolerogenic dendritic cell comprising (a) propagating immature dendritic cells from a mammalian donor, (b) incubating the dendritic cells with an oligodeoxyribonucleotide having at least one NF- $\kappa$ B binding site under conditions wherein the dendritic cells internalize the oligodeoxyribonucleotide, and (c) culturing said dendritic cells.

8. The method of claim 7 wherein the oligodeoxyribonucleotide has the sequence set forth in SEQ ID NO:1.

9. The method of claim 7 further comprising incubating the dendritic cells in the presence of one or more cytokines.

10. The method of claim 9 wherein the cytokine is GM-CSF.

11. The method of claim 9 further comprising incubating the dendritic cells in the presence of TGF- $\beta$ .

12. The method of claim 7 further comprising infecting said tolerogenic dendritic cells with a viral vector.

13. The method of claim 12 wherein the viral vector is derived from a virus selected from the group consisting of adenovirus, adeno-associated virus, retrovirus and herpes virus.

14. The method of claim 13 wherein the viral vector is derived from adenovirus.

15. A method for enhancing tolerogenicity in a mammalian host comprising (a) propagating immature dendritic cells from a mammalian donor, (b) incubating the dendritic cells with an oligodeoxyribonucleotide having at least one NF- $\kappa$ B binding site under conditions wherein the dendritic cells internalize the oligodeoxyribonucleotide (c) culturing said dendritic cells, and (d) administering said tolerogenic dendritic cells to said host.

16. The method of claim 15 wherein the oligodeoxyribonucleotide has the sequence set forth in SEQ ID NO:1.

17. The method of claim 15 further comprising incubating said dendritic cells in the presence of one or more cytokines.

18. The method of claim 17 wherein the cytokine is GM-CSF.

19. The method of claim 16 further comprising incubating said dendritic cells in the presence of TGF- $\beta$ .

20. The method of claim 15 further comprising infecting said tolerogenic dendritic cells with a viral vector before administering the cells to said host.

21. The method of claim 20 wherein the viral vector is derived from a virus selected from the group consisting of adenovirus, adeno-associated virus, retrovirus and herpes virus.

22. The method of claim 21 wherein the viral vector is derived from adenovirus.

23. The method of claim 15 further comprising administering FK 506 to the host.

24. The method of claim 15 further comprising administering cyclosporine A to the host.

25. The method of claim 15 further comprising administering FK 506 and cyclosporine A to the host.
26. The method of claims 15, and 20 wherein the tolerogenic dendritic cells are administered to the host intravenously.
27. The method of claim 15 wherein the host is a transplant host.
28. The method of claim 15 wherein the host has an inflammatory related disease.
29. The method of claim 28 wherein the host has arthritis.
30. A kit for enhancing tolerogenicity in a mammalian host comprising tolerogenic dendritic cells which comprise an oligodeoxyribonucleotide having at least one NF- $\kappa$ B binding site.
31. The kit of claim 30 wherein the oligodeoxyribonucleotide has the sequence set forth in SEQ ID NO:1.

32. The kit of claim 30 wherein the tolerogenic dendritic cells further comprise a viral vector.

33. The kit of claim 32 wherein the viral vector is derived from a virus selected from the group consisting of adenovirus, adeno-associated virus, retrovirus and herpes virus.

34. The kit of claim 33 wherein the viral vector is derived from adenovirus.

35. A method for treating diabetes in a mammalian host comprising administering to said host dendritic cells comprising an oligodeoxyribonucleotide having at least one NF- $\kappa$ B binding site.

36. The method of claim 35 wherein the oligodeoxyribonucleotide has two NF- $\kappa$ B binding sites.

37. The method of claim 36 wherein the oligodeoxyribonucleotide has the sequence set forth by SEQ ID NO:1.

38. A method for treating diabetes in a mammalian host comprising (a) propagating immature dendritic cells from a mammalian donor, (b) incubating the dendritic cells with an oligodeoxyribonucleotide having at least one NF- $\kappa$ B binding site under conditions

wherein the dendritic cells internalize the oligodeoxyribonucleotide (c) culturing said dendritic cells, and (d) administering said tolerogenic dendritic cells to said host.

39. The method of claim 38 wherein the oligodeoxyribonucleotide has two NF- $\kappa$ B binding sites.

40. The method of claim 39 wherein the oligodeoxyribonucleotide has the sequence set forth by SEQ ID NO:1.

41. A tolerogenic dendritic cell comprising an oligodeoxyribonucleotide having the sequence set forth by SEQ ID NO:1

42. The tolerogenic dendritic cell of claim 41 further comprising an adenovirus vector.

43. A method of producing a tolerogenic dendritic cell comprising (a) propagating immature dendritic cells from a mammalian donor, (b) incubating the dendritic cells with an oligodeoxyribonucleotide having the sequence set forth in SEQ ID NO:1 under conditions wherein the dendritic cells internalize the oligodeoxyribonucleotide, and (c) culturing said dendritic cells.

44. The method of claim 43 further comprising incubating the dendritic cells in the presence of one or more cytokines.

45. The method of claim 44 wherein the cytokine is GM-CSF.

46. The method of claim 44 further comprising incubating the dendritic cells in the presence of TGF- $\beta$ .

47. The method of claim 43 further comprising infecting said tolerogenic dendritic cells with viral vector.

48. The method of claim 47 wherein the viral vector is derived from adenovirus.

49. A method for enhancing tolerogenicity in a mammalian host comprising (a) propagating immature dendritic cells from a mammalian donor, (b) incubating the dendritic cells with an oligodeoxyribonucleotide having the sequence set forth in SEQ ID NO:1 under conditions wherein the dendritic cells internalize the oligodeoxyribonucleotide (c) culturing said dendritic cells, and (d) administering said tolerogenic dendritic cells to said host.



50. The method of claim 49 further comprising incubating said dendritic cells in the presence of one or more cytokines.

51. The method of claim 50 wherein the cytokine is GM-CSF.

52. The method of claim 50 further comprising incubating said dendritic cells in the presence of TGF- $\beta$ .

53. The method of claim 49 further comprising infecting said tolerogenic dendritic cells with a viral vector before administering the cells to said host.

54. The method of claim 53 wherein the viral vector is derived from adenovirus.

55. The method of claim 49 further comprising administering FK 506 to the host.

56. The method of claim 49 further comprising administering cyclosporine A to the host.

57. The method of claim 49 further comprising administering FK 506 and cyclosporine A to the host.

58. The method of claim 49 wherein the tolerogenic dendritic cells are administered to the host intravenously.

59. The method of claim 49 wherein the host is a transplant host.

60. The method of claim 15 wherein the host has Type I diabetes.

61. The method of claim 49 wherein the host has Type I diabetes.

62. The method of claim 49 wherein the host has arthritis.

63. A kit for enhancing tolerogenicity in a mammalian host comprising tolerogenic dendritic cells which comprise an oligodeoxyribonucleotide having the sequence set forth in SEQ ID NO:1.

64. The kit of claim 63 further comprising a viral vector.

65. The kit of claim 64 wherein the viral vector is derived from adenovirus.

66. A method for treating diabetes in a mammalian host comprising administering to said host dendritic cells comprising an oligodeoxyribonucleotide having the sequence set forth in SEQ ID NO:1.

67. A method for treating diabetes in a mammalian host comprising (a) propagating immature dendritic cells from a mammalian donor, (b) incubating the dendritic cells with an oligodeoxyribonucleotide having the sequence set forth in SEQ ID NO:1 under conditions wherein the dendritic cells internalize the oligodeoxyribonucleotide (c) culturing said dendritic cells, and (d) administering said tolerogenic dendritic cells to said host.